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SECTION 7

WETLANDS—ONLY PRACTICABLE ALTERNATIVE FINDING

This section describes wetland impacts for the preferred alternative, how impacts were avoided or minimized to the extent practicable, measures to minimize harm to wetlands that cannot be avoided, and the wetland compensation plan for unavoidable wetland loss.

BASIS FOR FINDING

Presidential Executive Order 11990, *Protection of Wetlands*, requires federal agencies to avoid to the extent practicable, long- and short-term adverse impacts associated with the destruction or modification of wetlands. More specifically, the Order directs federal agencies to avoid new construction in wetlands unless there is no reasonable alternative. The Order states further that where wetlands cannot be avoided, the proposed action must include all practicable measures to minimize harm to wetlands.

SUMMARY OF ALTERNATIVES CONSIDERED

Wetlands are scattered along both sides of WIS 83 and elsewhere in the study area.

Descriptions of the wetlands in the area of potential effect of the reasonable build alternatives are provided in EIS Section 4, and the wetland locations are shown on the Aerial Photo Exhibit. The alternatives development and refinement process included minimizing wetland impacts to the extent practicable as well as considering whether unavoidable wetland loss could be satisfactorily mitigated.

No Build Alternative

Under the No Build Alternative, WIS 83 would not be widened to provide additional roadway capacity. Any future improvements would consist of activities that attempt to maintain current service levels, keep the driving surface in good condition, and address safety concerns at spot locations. The No Build alternative was eliminated from further consideration because it would fail to address long-term traffic demand, geometric deficiencies, and safety concerns in the WIS 83 corridor. Wetland impacts under the No Build Alternative would be minimal and would be associated with any future grading or filling activities to widen or repair the highway shoulders or replace structures.

Build Alternatives / Preferred Alternative

The reasonable alternatives retained for detailed study in the Draft EIS and the preferred alternative (shown in bold text) are summarized in Table 7-1. More detailed information is provided in EIS Section 2. In each project section, a “best-fit” alignment was developed that shifted the proposed improvements from east to west or down the middle to minimize overall impacts. The best-fit alignment was also considered to be the environmentally preferred alternative that would meet project purpose and need and cause the least damage to the natural and built environment.

TABLE 7-1
Build Alternatives Retained for Detailed Study and Preferred Alternative

WIS 83 Section	Existing Roadway	Alternatives
County NN to County X	2-lane rural	4-lane hybrid urban/rural <i>(Preferred Alternative)</i>
County X to County DE/E		
County X to Walnut Street	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation (hybrid urban/rural) <i>(Preferred Alternative)</i> <i>Would be constructed when or if traffic volumes or safety factors indicate the need</i>
Walnut Street to WIS 59	2-lane rural	Reconstruct existing 2-lane highway 4-Lane Corridor Preservation (urban with center left-turn lane) <i>(Preferred Alternative)</i> <i>Would be constructed when or if traffic volumes or safety indicate the need</i>
WIS 59 to County D	2-lane rural/urban	Reconstruct existing 2-lane highway <i>(Preferred Alternative)</i> 4-Lane Corridor Preservation (undivided urban) Off-Alignment Alternative D (divided urban)
County D to County DE/E	2-lane rural	Reconstruct existing 2-lane highway <i>(Preferred Alternative)</i> 4-Lane Corridor Preservation (divided urban)
County DE/E to Hillside Drive		
County DE/E to County G	2-lane rural	4-lane divided urban <i>(Preferred Alternative)</i>
County G to Welsh Road	2-lane rural	4-lane undivided urban <i>(Preferred Alternative)</i>
Welsh Road to US 18	2-lane rural	4-lane divided urban <i>(Preferred Alternative)</i>
US 18 to Hillside Drive	2-lane rural	4-lane hybrid urban/rural <i>(Preferred Alternative)</i>
Hillside Drive to County DR/Golf Road	4-lane divided rural/urban	4-lane urban with right turn lanes <i>(Preferred Alternative)</i>
County DR/Golf Road to Meadow Lane	4-lane divided (suburban with shoulders)	No change; the existing cross section would be retained
Meadow Lane to WIS 16	2-lane rural	4-lane hybrid urban/rural <i>(Preferred Alternative)</i>
WIS 16 to Chapel Ridge Road	2-lane rural	Reconstruct existing 2-lane highway <i>(Preferred Alternative)</i>

Wetland Impact Comparison

Wetland impacts for the initial range of reasonable Build Alternatives and the preferred alternative are summarized in Table 7-2. The preferred alternative and associated wetland impacts are shown in bold text. The wetland locations relative to the preferred alternative are shown on the Aerial Photo Exhibit. More detailed information is provided in EIS Section 4, Table 4-12.

TABLE 7-2
Wetland Impact Comparison

WIS 83 Section	Alternatives	Affected Wetlands (See Aerial Photo for Locations)	Impacts
County NN to County X	4-lane hybrid urban/rural (Preferred Alternative)	W-1 both sides of WIS 83 W-2 (ADID); west of WIS 83 W-3 west of WIS 83	0.2 acres (0.1 ha) 1.2 acres (0.5 ha) 0.2 acres (0.1 ha)
County X to County DE/E			
County X to Walnut Street	Reconstruct existing 2-lane highway	W-4 (ADID); both sides of WIS 83	1.0 acre (0.4 ha)
	4-Lane Corridor Preservation (hybrid urban/rural) (Preferred Alternative)	W-4 (ADID); both sides of WIS 83	1.0 acre (0.4 ha)
Walnut Street to WIS 59	Reconstruct existing 2-lane highway	None	None
	4-Lane Corridor Preservation (urban with center left-turn lane) (Preferred Alternative)	None	None
WIS 59 to County D	Reconstruct existing 2-lane highway (Preferred Alternative)	W-6 (ADID); east of WIS 83 W-8 (ADID); both sides of WIS 83	0.01 acres (0.01 ha) None
	4-Lane Corridor Preservation (undivided urban)	W-6 (ADID); east of WIS 83 W-8 (ADID); both sides of WIS 83	0.01 acres (0.01 ha) 0.1 acres (0.04 ha)
	Combination Off-Alignment Alternative D / 4-Lane Corridor Preservation Alternative (divided & undivided urban)	W-6 (ADID); east of WIS 83 W-7 (ADID); south of WIS 83	0.01 acres (0.01 ha) 0.4 acres (0.2 ha)
County D to County DE/E	Reconstruct existing 2-lane highway (Preferred Alternative)	None	None
	4-Lane Corridor Preservation (divided urban)	None	None
County DE/E to Hillside Drive			
County DE/E to County G	4-lane divided urban (Preferred Alternative)	None	None
County G to Welsh Road	4-lane undivided urban (Preferred Alternative)	None	None
Welsh Road to US 18	4-lane divided urban (Preferred Alternative)	None	None
US 18 to Hillside Drive	4-lane hybrid urban/rural (Preferred Alternative)	W-9; east of WIS 83 W-10 (ADID); west of WIS 83	0.3 acres (0.1 ha) 1.8 acres (0.7 ha)
Hillside Drive to County DR/Golf Road	4-lane urban with right turn lanes (Preferred Alternative)	None	None
County DR/Golf Road to Meadow Lane	No change; the existing cross section would be retained	None	None
Meadow Lane to WIS 16	4-lane hybrid urban/rural (Preferred Alternative)	W-13 (ADID); west of WIS 83 W-14 (ADID); east of WIS 83 W-15 (ADID); west of WIS 83	0.4 acres (0.2 ha) 2.7 acres (1.1 ha) 0.4 acres (0.2 ha)
WIS 16 to Chapel Ridge Road	Reconstruct existing 2-lane highway (Preferred Alternative)	None	None

Total wetland impacts for the preferred alternative would be approximately 8.21 acres (3.32 ha) with 7.51 acres (3.04 ha) ADID wetlands and 0.7 acres (0.3 ha) non-ADID wetlands. Wetland impacts for the preferred alternative were further minimized by rerouting the multi-use path to the west of the Scuppernong Creek Parkway Easement from a point south of Mary Court to Scuppernong Valley Court.

The difference in wetland impacts between the preferred alternative and other alternatives considered occurs in the WIS 59 to County D segment:

- There would be an additional 0.1 acres (0.04 ha) of wetland impacts with the 4-Lane Corridor Preservation Alternative that was considered but eliminated in this segment, all of which is ADID wetland.
- There would be an additional 0.4 acres (0.2 ha) of wetland impacts with the Combination Off-Alignment Alternative D/4-Lane Corridor Preservation Alternative that was considered but eliminated in this segment, all of which is ADID wetland.

Based on the above, the preferred alternative with the 2-Lane Reconstruction Alternative in the WIS 59 to County D segment reduces overall wetland impacts in the WIS 83 corridor by approximately 0.4 acres (0.2 ha) by avoiding impacts to ADID Wetland W-7.

DETERMINATION OF NO PRACTICABLE ALTERNATIVE

The preferred alternative was selected as the most practicable alternative based on engineering and environmental evaluation, public input, and agency coordination. It is considered to be the “environmentally preferred alternative” providing a balance among sound engineering design, addressing long-term travel demand and safety concerns in the WIS 83 corridor, and minimizing adverse impacts to adjacent residential and business development, farmland, and natural resources including wetlands. State and federal review agencies concurred in the preferred alternative relative to wetland resources (see correspondence in Appendix D).

MEASURES TO MINIMIZE HARM

In accordance with state and federal agency policies and regulations for wetland preservation, including the *Section 404(b)(1) Guidelines for Specifications of Disposal Sites for Dredged or Fill Material* (40 CFR, Part 230), the following discussion summarizes wetland mitigation strategies for the WIS 83 project.

Avoid and Minimize Wetland Impacts

Because wetlands in the WIS 83 corridor are scattered along the existing highway or are located adjacent to the existing highway, it is not possible to avoid wetland impacts completely.

The preferred alternative includes alignment shifts where practicable to minimize wetland impacts. In addition, the urban and hybrid urban/rural roadway typical sections reduce the amount of right-of-way required and minimize wetland impacts. Specific areas where alignment shifts were made to minimize wetland impacts or to balance wetland impacts with other impacts and engineering considerations are summarized as follows:

County NN to County X

- Widening west from the Fox River Tributary to Sugden Road balances residential proximity impacts on the east side of WIS 83 with impacts to wetlands W-1 and W-2 west of WIS 83. Although widening west would impact approximately 1.6 acres (0.6 ha) of wetland compared to approximately 0.8 acres (0.3 ha) for widening down the middle, area residents east of the existing highway have expressed substantial opposition to

moving the roadway closer to their homes. Widening west would also provide construction staging advantages compared to widening down the middle.

- Widening east from Sugden Road to a point north of County I minimizes impacts to wetland W-3 on the west side of WIS 83.

County X to County DE/E

- The preferred 2-lane Reconstruction Alternative avoids impacts to wetland W-7 that would have been severed with the Combination Off-Alignment Alternative D/4-Lane Corridor Preservation Alternative.

County DE/E to Hillside Drive

Although the preferred 4-lane hybrid urban/rural alternative would impact approximately 1.8 acres (0.7 ha) of wetland W-10 in the area between Glacier Pass and Twin Oaks Drive, the following alignments would minimize and balance overall impacts adjacent to WIS 83:

- Widening west from the Glacier Pass (south leg) to a point south of Mary Court balances residential property impacts, slope grading, and woodland impacts to the Hills of Delafield subdivision east of WIS 83 with impacts to wetland W-10 west of WIS 83.
- Widening east from a point south of Mary Court to a point south of Twin Oaks Drive minimizes impacts to wetland W-10 west of WIS 83 and avoids impacts to Scuppernong Creek west of WIS 83. A retaining wall on the east side of WIS 83 north of Mary Court would minimize slope grading and woodland impacts to the Hidden Hills Estates subdivision east of WIS 83. Other techniques to minimize impacts include guardrail and steeper side slopes. An additional retaining wall on the west side of WIS 83 south of Twin Oaks Drive would minimize slope grading and woodland impacts to the Twin Oaks subdivision.
- Wetland impacts for the preferred alternative were further minimized by rerouting the multi-use path to the west of the Scuppernong Creek Parkway Easement from a point south of Mary Court to Scuppernong Valley Court.

Meadow Lane to WIS 16

- Widening east from a point south of Walnut Ridge Drive (south leg) to a point south of Cardinal Lane minimizes impacts to wetlands W-13 and W-15 west of WIS 83 and avoids impacts to the Albert Campbell Residence west of WIS 83 that has been found eligible to the National Register of Historic Places. Impacts to the existing wetland mitigation site east of WIS 83 near the Bark River will be minimized with beam guard, steep slopes, and a site enhancement.

During a future engineering phase, WisDOT would investigate additional measures to minimize wetland impacts such as keeping roadway sideslopes as steep as practicable, disposing of excavated material on new roadway sideslopes or in an upland area, use of equalizer pipes to maintain wetland hydrology, strict erosion control measures to minimize sedimentation and siltation into adjacent wetlands, and the use of detention ponds and infiltration basins to reduce pollutant loading and protect cold-water communities.

Wetland Compensation

Compensation for unavoidable wetland loss will be carried out in accordance with the interagency *Wetland Mitigation Banking Technical Guideline* developed as part of the WisDOT/DNR *Cooperative Agreement on Compensatory Wetland Mitigation*.

Because the proposed WIS 83 improvements are long term, a specific wetland compensation plan cannot be identified at this time and will be developed in a future engineering design phase in consultation with state and federal agencies.

WisDOT and DNR have conducted an initial search for potential nearby wetland restoration sites, including contacting property owners to determine their willingness to participate in sale or lease of property for wetland mitigation purposes. A site visit of one parcel was conducted. This and other candidate restoration sites that may be identified when specific project segments proceed to the engineering phase will be considered before making a decision to use an established wetland bank outside the project corridor.

At this time, WisDOT's nearest established wetland bank is the 320 acre (130 ha) Jacobson bank in Walworth County. It includes wet meadow and shallow marsh wetland types and several thousand tree seedlings have been planted to produce a mature wooded swamp wetland. If ultimately used to mitigate wetland loss for the WIS 83 corridor, the Jacobson bank would provide similar functions and values. It is also possible that a closer wetland bank site could be established prior to the time wetland impacts would occur on portions of the WIS 83 corridor that would not be constructed in the foreseeable future.

Unavoidable wetland loss will be fully compensated at an appropriate replacement ratio that would be no less than 1 : 1 (one acre restored or created : each acre lost). The final ratio could vary depending on the criteria presently in place in the *Wetland Mitigation Banking Guideline*. For example, if a nearby wetland restoration site is established concurrent with the wetland loss, the replacement ratio can range from 1.5 : 1 to as high as 2 : 1 depending on the risk assessment regarding the probable success of the "created" or "restored" wetland. Similarly, if an established wetland bank is used, factors such as proximity to the project area, and types of wetlands available at the bank versus those lost, could influence the replacement ratio.

Existing Wetland Mitigation Site

The existing 0.65 acre (0.26 ha) wetland mitigation site is located on the east side of WIS 83 and just south of the Bark River. Impacts to the existing wetland mitigation site total 0.15 acres (0.06 ha) and are minimized with beam guard and steep slopes. A site enhancement totaling 0.65 acres (0.26 ha) is planned in consultation with the DNR, US Army corps of Engineers, and the Ice Age Park and Trail Foundation (see Appendix D, pages D-5 and D-18) .

WETLAND FINDING

Based on the above considerations in accordance with Presidential Executive Order 11990, *Protection of Wetlands*, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.